



Australian Bureau of Statistics

1420.0.55.001 - Population Clock Web Service, User Guide

Latest ISSUE Released at 11:30 AM (CANBERRA TIME) 11/07/2014 First Issue

What is Population Clock Web Service?

Background

The ABS Population Clock Web Service / Application Programming Interface (API) provides Australian population projection information as a JavaScript Object Notation (JSON) web service.

Overview

The Population Clock Web Service User Guide is a reference guide for the Population Clock Web Service / API. Information is also provided for developers to create a Population Clock in their own applications.

The Web Service serves up the real time Australian population figure. It also includes the information about frequency of births, deaths, international migration and overall total Australian population increase that are used in its calculation.

These data are consistent with estimated resident population data released in the latest issue of [Australian Demographic Statistics \(cat. no. 3101.0\)](#).

The web service is licensed for reuse under [Creative Commons](#) and obligations you must abide by for using the web service can be found in the Terms of Use. ABS must be acknowledged as the source of the population information.

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For Developers

Universal Resource Identifier (URI)

Access the API through the following URI: <http://www.abs.gov.au/api/demography/populationprojection>

Data in the ABS Population Clock Web Service / API

To create your own Population Clock refer to section **Using the ABS Population Clock Web Service / API in your own applications** below.

The ABS Population Clock Web Service / API provides data in a JavaScript Object Notation (JSON) format.

Example:

```
{ "attribution": "Australian Bureau of Statistics",  
  "popNow": "23518535",  
  "timeStamp": "10 Jun 2014 09:50:39 EST",  
  "projectionStartDate": "30 September 2013",  
  "birthRate": "1 minute and 42 seconds ",  
  "deathRate": "3 minutes and 36 seconds ",  
  "overseasMigrationRate": "2 minutes and 9 seconds ",  
  "growthRate": "1 minute and 17 seconds ",  
  "rateSecond": "77.14304584893798663891",  
  "source": "Australian Demographic Statistics, September Quarter 2013 (cat. no. 3101.0)",  
  "sourceURL": "http://www.abs.gov.au/ausstats/abs@.nsf/mf/3101.0",  
  "copyRight": "Copyright Commonwealth of Australia" }
```

Below is a brief description of the data contained in the API:

Property	Type	Definition	Example
attribution	String json	Australian Bureau of Statistics (ABS) material used 'as supplied' with no modification or transformation to the ABS material including calculating percentages, graphing / charting data or deriving new statistics from published ABS statistics may be used provided the	attribution : 'Australian Bureau of Statistics'

		following attribution: 'Source: Australian Bureau of Statistics' or 'Source: ABS'. If you have modified or transformed ABS material, or derived new material from those of the ABS in any way, the following attribution must be used: 'Based on Australian Bureau of Statistics data' or 'Based on ABS data'.	
popNow	String json	This instance population (determined by timeStamp) value - the displayed (interpolated) popclock value	popNow : '23518535'
timeStamp	String json	The exact date-time at which PopNow is calculated (ie the date-time used in the popclock interpolation).	timeStamp : '10 Jun 2014 09:50:39 EST'
projectionStartDate	String json	The date of the base Estimated Resident Population (ie the START population)	projectionStartDate : '30 September 2013'
birthRate	String json	Birth rate expressed as minutes and seconds per birth	birthRate : '1 minutes and 42 second'
deathRate	String json	Death rate expressed as minutes and seconds per death	deathRate : '3 minutes and 36 second'
overseasMigrationRate	String json	Net Overseas Migration rate expressed as minutes and seconds per net overseas migrant	overseasMigrationRate : '2 minutes and 9 second'
growthRate	String json	Population growth rate expressed as minutes and seconds per person added to the population	growthRate : '1 minutes and 17 second'
rateSecond	String json	Growth rate expressed as seconds per person added to the population	rateSecond : '77.14304584893798663891'
source	String json	The entire text string used to source Australian Demographic Statistics (ABS Cat. No. 3101.0) in accordance with publication standards	source: 'Australian Demographic Statistics, September Quarter 2013 (cat. no. 3101.0)'

sourceURL	String json	The source URL for Australian Demographic Statistics (ABS Cat. No. 3101.0) in accordance with publication standards	sourceURL:'http://www.abs.gov.au/ausstats/abs@.nsf/mf/3101.0'
copyRight	String json	All data and other material produced by the Australian Bureau of Statistics (ABS) constitutes Commonwealth copyright administered by the ABS. Unless otherwise noted, all ABS data presented in this application, except the ABS logo, the Commonwealth Coat of Arms, and any material protected by a trademark, is licenced under a Creative Commons Attribution 2.5 Australia licence.	copyRight : 'Copyright Commonwealth of Australia.'

Using the ABS Population Clock Web Service / API in your own applications

For programmers looking to consume the Population Clock Web Service / API we recommend their application design follow a similar approach to the 'ABS Stats' iOS app. The 'ABS Stats' iOS app is designed with a cache to store the population data it retrieves from the Population Clock Web Service / API. In this way, the app is able to perform its own calculations and present the Australian population projection in real time. This eliminates the need for frequent continuous API polling by the app, which in turns removes other technological factors such as network latency and network connectivity. The use of a cache on the host application allows for instant access to the population data and provides added fault tolerance when the application cannot reach the Population Clock Web Service / API. Additionally, the host application would only need to parse the population data once and store it in the cache in a format that is ready for use by the host application.

We recommend that consumers of the web service call the Population Clock Web Service / API once a day. The data provided by the web service is updated only when there is a new quarterly release of [Australian Demographic Statistics \(ABS Cat. No 3101.0\)](#). The API's data provide the consumer with the ability to calculate their own figures i.e. current projected Australian population – see **Frequently Asked Questions – How is the data in the Population Clock Web Service / API calculated?**

Below is an example of using jQuery to retrieve population data from the Population Clock Web Service / API and parsing the JSON output to increment your own Population Clock:

The properties used are: popNow, rateSecond and timeStamp or Date.getTime

```
<html>
<head>
<title>jQuery calling RESTful Population Clock Web Service API</title>
<meta xmlns="http://www.w3.org/1999/xhtml" content="text/html; charset=utf-8" />
<script src="http://code.jquery.com/jquery-2.1.1.js"></script>
</head>

<body>
<script type='text/javascript'>
jQuery.support.cors = true;
var Population;
var receivedTime;
function calculatePopulation() {
if(Population){
```

```

var nowTime = new Date();

var timeDif = Math.abs((nowTime.getTime() - receivedTime.getTime()) / 1000);

var rate = Number(Population.rateSecond);
var addToPop = Math.round(Number(timeDif) / Number(rate));
var currPop = Number(Population.popNow) + Number(addToPop);

$('#displayPopulation').html(""+currPop);
}
}

function getData(){
var client = new $.ajax({url:'http://www.abs.gov.au/api/demography/populationprojection',
contentType: "application/json; charset=utf-8",
dataType: "json"});
client.success(function(data) {
Population = data;
receivedTime = new Date();
});
client.error(function(error) {
alert('Error: ' + error.statusText);
});
}

function checkUpdate() {
var nowTime = new Date();
if(receivedTime && (DiffInDays(receivedTime,nowTime)>2)){
getData();
}
calculatePopulation();
}

function DiffInMilliseconds(First, Second) {
var start = new Date(First);
var end = new Date();

if (Second != null) {
end = new Date(Second);
}

if (First != null) {
start = new Date(First);
}

var millisBetween = end.getTime() - start.getTime();

```

```

return millisBetween;
}

function DiffInDays(First, Second) {
var millisBetween = DiffInMilliseconds(First, Second);
var millisecondsPerDay = 1000 * 60 * 60 * 24;
var days = millisBetween / millisecondsPerDay;
return Math.floor(days);
}

$(document).ready(function () {
getData();
setInterval(function() {
checkUpdate();
}, 2000);

});
</script>
<h1>How to use Population Clock Web Service API jQuery</h1>
<p>This is a basic example</p>
<p>Australian Population is: <span id="displayPopulation"></span></p>

</body>
</html>

```

Technical overview

The Population Clock Web Service / API is built using Java and utilises Representational State Transfer (REST) architecture to allow for the simplest set of communication requirements as opposed to Simple Object Access Protocol (SOAP).

To retrieve the population figure from the Population Clock Web Service / API, the consumer constructs a simple Hypertext Transfer Protocol (HTTP) GET request parsing the output as a JSON object. Below is some C# .NET code sample demonstrating using standard class libraries to call the Population Clock Web Service / API and parsing the output as a JSON object:

```

string requestUrl = "http://www.abs.gov.au/api/demography/populationprojection";

HttpWebRequest request = WebRequest.Create(requestUrl) as HttpWebRequest;
request.Method = "GET";
request.ContentType = "application/json";
using (HttpWebResponse response = request.GetResponse() as HttpWebResponse)
{
if (response.StatusCode != HttpStatusCode.OK)
throw new Exception(String.Format( "Server error (HTTP {0}: {1}).",response.StatusCode,response.StatusDescription));
DataContractJsonSerializer jsonSerializer = new DataContractJsonSerializer(typeof(Response));

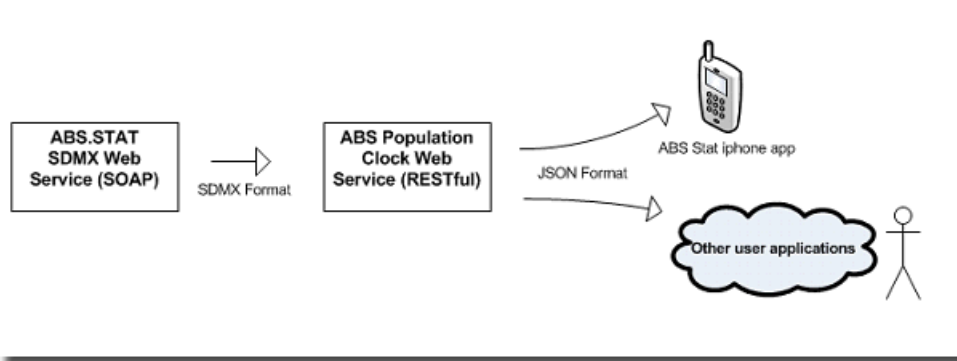
```

```

object objResponse = jsonSerializer.ReadObject(response.GetResponseStream());
Response respJSON = objResponse as Response;
Console.WriteLine("The Australian projected population is: " + respJSON.PopNow);
}

```

The Population Clock Web Service / API retrieves its data from ABS.Stat SDMX Web Service (<http://stat.abs.gov.au/sdmxws/sdmx.asmx>) which implements SOAP. The Population Clock Web Service / API has its own cache to store the population data retrieved from ABS.Stat. This approach minimises unnecessary calls to ABS.Stat, as the population data updates on a quarterly basis.



Simple technologies have been applied in the design of the Population Clock Web Service / API. ABS intends that this approach will give programmers more time to spend on building their own applications (smart phone applications, web site applications, desktop applications), and to interpret, analyse and ultimately present the population data in an innovative way. Some recommendations follow for incorporating API data into your apps.

Further help for developers using Population Clock Web Service / API

The [ABS BetaWorks blog](#) provides information about ABS website innovations. It also provides a developer's forum for sharing ideas, providing feedback and reporting any technical issues using APIs.

If you cannot find an answer through ABS BetaWorks, the [ABS National Information Referral Service](#) is also available to email, or to call during Australian Eastern Standard Time office hours. They will ensure your enquiries or feedback are relayed to our technical staff for response.

Changes to available all available ABS web services will be advertised on the [ABS website](#). The addition of new APIs will be advertised on the website and on [BetaWorks](#).

As the source datasets for the API are on [ABS.Stat](#), it may be occasionally down or over capacity. In this event, users should expect an error code of 500 with the message "ABS RESTful web service currently unavailable."

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Frequently Asked Questions (FAQs)

What is a web service (or an API)?

Web services are interfaces for use by programmers to request data from a data provider that they wish to use in their own applications. As they provide an interface to data, they are also known by the term Application Programming Interface (or API).

As part of the service they provide, APIs include a set of rules or specifications used for software to software communication. This allows programmers to build applications that consume, automatically retrieve, combine and display data.

Currently ABS provides one API – the [ABS Population Clock Web Service / API](#). More details in the sections below.

What is the ABS Population Clock API?

The [ABS Population Clock Web Service / API](#) is a RESTful web service providing an alternative method of downloading population figures, as well as a short-term population projection for the specific purpose of producing a “population clock” for Australia. The projection is based on estimated resident population (ERP) figures published on the ABS website in the latest release of [Australian Demographic Statistics \(ABS Cat. No. 3101.0\)](#). The data in the API are sourced from ABS’s free interactive data query tool [ABS.Stat](#).

The Population Clock Web Service / API makes use of Representational State Transfer (REST) architecture to allow for the simplest set of communication requirements between the data provider web service and consumer software.

The API provides its data in a JavaScript Object Notation (JSON) format. JSON can be easily and efficiently manipulated as required through class libraries which are provided by most common programming languages.

Access to the Population Clock Web Service / API is through the following URI: <http://www.abs.gov.au/api/demography/populationprojection>.

One unique feature of the Population Clock Web Service / API is its “popNow” figure. This figure is a live projected Australian total population figure that is calculated at the time of request. It uses the same calculation as the population figure displayed on the [ABS website population clock](#).

The data in the API is licensed for reuse under [Creative Commons 2.5](#), and Terms of Use governing use of the API are also available on the ABS website.

For more information, see the page **For Developers**.

The Population Clock Web Service / API data source

The population figures provided by Population Clock Web Service / API are sourced from two datasets published on [ABS.Stat](#):

- i. Quarterly Population Estimates (ERP), by State/Territory, Sex and Age – see <http://stat.abs.gov.au/Index.aspx?QueryId=452>

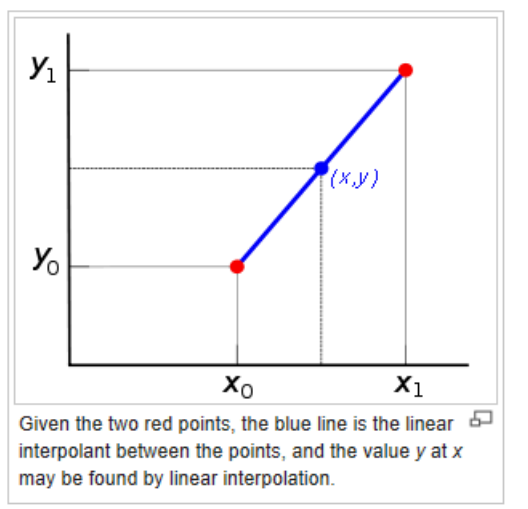
ii. Population clock component data – see <http://stat.abs.gov.au/Index.aspx?QueryId=759>

The quarterly ERP data included in the API are also published on the ABS website in [Australian Demographic Statistics \(ABS Cat. No. 3101.0\)](#).

How is the data in the ABS Population Clock Web Service / API calculated?

The population clock uses linear interpolation between the base population (latest Estimated Resident Population) and the projected population one year ahead, to calculate the population at any time point between the start and end points.

The following graph highlights the methodology of linear interpolation. In this graph, X_0 represents the start time and X_1 the end time (in this case one year later); Y_0 is the start population and Y_1 is the end population. Given a particular time X between X_0 and X_1 , we can find the corresponding Y population for the time point based on where our X intersects with the blue line.



Source: http://en.wikipedia.org/wiki/Linear_interpolation

Below is a detailed explanation of how the Population Clock Web Service/ API produces its population figures:

i. To calculate **popNow**

Step 1 – Calculate population change over a period of time

Growth = EndPopulation – StartPopulation

Example:

StartPopulation: Australia's population on 30/09/2013 at 11:59:59pm = 23 235 837 (data sourced from ABS.Stat dataset Quarterly Population Estimates (ERP), by State/Territory, Sex and Age)

EndPopulation: Australia's population on 30/09/2014 at 11:59:59pm = 23 644 636 (Data sourced from ABS.Stat dataset Population clock component data)

Growth = 23 644 636 – 23 235 837

Growth = 408 799

Step 2 – Calculate the time difference between now and the start of the period

timeGone = timeNow – StartTime

Example:

timeNow: Current time 06/06/2014 at 11:59:59pm

StartTime: Date and time of base population (StartPopulation), = 30/09/2013 at 11:59:59pm (data sourced from ABS.Stat dataset Quarterly Population Estimates (ERP), by State/Territory, Sex and Age)

timeGone = 249 days

timeGone = 21 513 600 seconds

Step 3 - Calculate the time difference between the start and end of the period

timeTotal = EndTime – StartTime

Example:

StartTime: Date and time of base population (Start Population) = on 30/09/2013 at 11:59:59pm (data sourced from ABS.Stat dataset Quarterly Population Estimates (ERP), by State/Territory, Sex and Age)

EndTime: Date and time of EndPopulation (one year ahead of Start Time) = on 30/09/2014 at 11:59:59pm (data sourced from ABS.Stat dataset Population clock component data)

timeTotal = 365 days

timeTotal = 31 536 000 seconds

Step 4 – Calculate the time percentage of what has already past

timePercent = (timeGone / timeTotal) x 100

Example:

timePercent = (21 513 600 / 31 536 000) x 100

timePercent = 68.22%

Step 5 – Calculate the increase amount of the population since the start of the period

growthPopulation = Growth x timePercent

Example:

Growth: As calculated in step 1 = 408 799

timePercent: As calculated in step 4 = 68.22%

growthPopulation = 408 799 x 68.22%

growthPopulation = 278 882 (rounded down as the population clock will only tick over when a whole number is reached)

Step 6 – Calculate the current population figure

popNow = StartPopulation + growthPopulation

Example:

StartPopulation: Australia's population on 30/09/2013 at 11:59:59pm = 23 235 837 (data sourced from ABS.Stat dataset Quarterly Population Estimates (ERP), by State/Territory, Sex and Age)

growthPopulation: as calculated in step 5 = 278 883

popNow = 23 235 837 + 278 882

popNow = 23 514 719

ii. To calculate **Growth Rate**

GrowthRate = timeTotal/Growth

Example:

timeTotal: as calculated in step 3 = 31 536 000 seconds

Growth = EndPopulation – StartPopulation

Growth: as calculated in step 1 = 408 799

GrowthRate = 31 536 000/408 799

GrowthRate = 77.14305 seconds

GrowthRate = 1 minute and 17 seconds

iii. To calculate **Death Rate**

DeathRate = timeTotal/Deaths

Example:

timeTotal: as calculated in step = 331 536 000 seconds

Deaths = 146 169 (number of projected deaths - data sourced from ABS.Stat dataset Population clock component data)

DeathRate = 31 536 000/146 169

DeathRate = 215.7503 seconds

DeathRate = 3 minutes and 36 seconds

iv. To calculate **Birth Rate**

BirthRate = timeTotal/Births

Example:

timeTotal: as calculated in step 3 = 31 536 000 seconds

Births = 310 568 (number of projected births - data sourced from ABS.Stat dataset Population clock component data)

BirthRate = 31 536 000/310 568

BirthRate = 101.543 seconds

BirthRate = 1 minute and 42 seconds

v. To calculate **Net Migration Rate**

NetMigrationRate = timeTotal/NetMigration

Example:

timeTotal: as calculated in step 3 = 31 536 000 seconds

NetMigration = 244 400 (number of projected net migrants - data sourced from ABS.Stat dataset Population clock component data)

NetMigrationRate = 31 536 000/244 400

NetMigrationRate = 129.0344 seconds

NetMigrationRate = 2 minutes and 9 seconds

How does ABS use the Population Clock API?

The [ABS Stats iOS app](#) is one example of an application taking the latest population data from the Population Clock Web Service / API and presenting it on a smart phone platform. The ABS Stats iOS app is designed with a cache to store the population data it retrieves from the Population Clock Web Service / API. In this way, the app is able to perform its own calculations and present the Australian population projection in real time. This eliminates the need for frequent continuous API polling by the app, which in turns removes other technological factors such as network latency and network connectivity. Overall, using a cache provides a more efficient and responsive iOS app for a better user experience.

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Other ABS APIs

ABS.Stat

The ABS.Stat tool provides a SDMX web service that enables automatic transmission of data between machines. There is more technical information available in the [ABS.Stat Web Browser User Guide](#).

Applications using ABS APIs

Regional data

ABS publishes a range of data profiles about People, the Economy, Industry and the Environment for various regions. These profiles are designed for users interested in the socio-economic and environmental characteristics of regions - and in comparing these with similar regions across Australia. Data are presented as a five year time series, where available.

ABS publishes these profiles from ABS.Stat. Developers should note that the RESTful queries used to generate these profiles can be discovered using the 'Viewing the source' of the page in your browser.

For more information about the types of regions with available data, see the [Data by Region](#) page and for developers see the [ABS ITT User Documentation](#).

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Australian Bureau of Statistics' Web Service/Application Programming Interface Terms of Use Agreement

The Australian Bureau of Statistics (ABS) currently offers its population projection data 'Population Clock' in a machine-readable format via an Application Programming Interface (API) (referred to as 'Population Clock Web Service/API'). Use of this Population Clock Web Service/API is subject to the following Terms and Conditions.

Access to or use of the Population Clock Web Service/API, or the Population Clock Web Service/API content, constitutes acceptance to this Terms of Use Agreement (Agreement).

Scope

This Agreement extends to all services, content, documentation, code and related materials pertaining to the Web Service/API.

Use

You, the user, may utilise or access the Population Clock Web Service/API to develop a product or service to display, analyse, retrieve, view and otherwise retrieve or access publically available information from the ABS.

Attribution

Unless otherwise noted, all ABS data presented through the Population Clock Web Service/API is provided under a Creative Commons Attribution 2.5 Australia licence. All services that utilise or access the Population Clock Web Service/API must identify the ABS as the source of the Web Service/API content.

All services that utilise or access the Population Clock Web Service/API and use ABS material 'as supplied' – being ABS material with no modification or transformation to the ABS material or other material including calculated percentages, graphed / charted data or derived new statistics from published ABS statistics may be used provided the following attribution is displayed prominently in the service: 'Source: Australian Bureau of Statistics' OR 'Source: ABS'.

If services modify or transform ABS material, or derive new material from those of the ABS in any way, the following attribution must be used and displayed prominently in the service: 'Based on Australian Bureau of Statistics data' OR 'Based on ABS data'.

You may not use the ABS name to imply endorsement of any product, service or entity.

Lawful purposes

You agree to use the Population Clock Web Service/API only for lawful purposes, and in a manner that does not infringe the rights of or restrict or inhibit the use of the Population Clock Web Service/API of any third party. This includes conduct which is unlawful or which may harass or cause distress or inconvenience to any person, or cause disruption to the Population Clock Web Service/API.

You must not use the Population Clock Web Service/API in conjunction with any unlawful, defamatory, obscene, offensive or scandalous material, or any material that constitutes or encourages conduct that would contravene any law.

Your use of the Population Clock Web Service/API will be in strict accordance with this Agreement and all applicable laws and regulations; and your use of the Population Clock Web Service/API will not infringe or misappropriate the intellectual property rights of any third party.

Disclaimer of Warranties

The data within the Population Clock Web Service/API is regularly updated.

The ABS has taken great care to ensure that the information within the Population Clock Web Service/API is as correct and accurate as possible, however, the Web Service/API does not warrant or otherwise guarantee the currency, accuracy, reliability, performance, completeness, suitability and/or availability of the Population Clock Web Service/API, for any particular purpose.

You acknowledge and accept that the Population Clock Web Service/API may at times contain inaccuracies or errors and that the ABS will not be liable for any such inaccuracies or errors.

The ABS does not warrant, either expressly or by implication, the suitability or fitness of the Population Clock Web Service/API for any particular purpose or use.

Limitations on Liability

The ABS will not be liable, with respect to this Agreement under any contract, negligence, strict liability or other legal or equitable theory for any special, incidental, or consequential damages; the cost of procurement of substitute products or services; or for interruption of use or loss or corruption of data, arising directly or indirectly from using, or an inability to use, the Population Clock Web Service/API and any information contained within the Population Clock Web Service/API.

Access and Web Service/API Limitations

You will only access the Population Clock Web Service/API by the means described in the Population Clock Web Service/API documentation.

It is a condition when using or accessing the Population Clock Web Service/API that, unless otherwise approved by the ABS, you make no more than 'one' web service call in a '24 hour period'. The ABS may set or alter limits on the number of Population Clock Web Service/API requests that you can make, at its sole discretion. You agree to such limitations and will not attempt to circumvent such limitations.

If the ABS reasonably believes that you have attempted to exceed or circumvent these limits, your ability to use the Population Clock Web Service/API may be temporarily or permanently blocked. The ABS may also monitor your use of the Population Clock Web Service/API to improve the service or to ensure compliance with this Agreement.

Service Termination

You may stop using the Population Clock Web Service/API at any time thereby terminating this Agreement. You must therefore cease to use the Population Clock Web Service/API in your product, service or entity.

The ABS reserves the right to: (1) refuse to provide the Population Clock Web Service/API to you, if it is the ABS' opinion that use violates any ABS policy; or (2) terminate or deny you access to and use of all or part of the Population Clock Web Service/API at any time for any other reason at its sole discretion.

ABS reserves the right to terminate these terms or discontinue the Population Clock Web Service/API or any portion or feature of the Population Clock Web Service/API for any reason and at any time without liability or other obligation to you.

Changes

Changes to the Population Clock Web Service/API may occur in the future. The ABS will post notice of changes and announcements through the ABS website.

The ABS reserves the right, at its sole discretion, to modify or replace this Agreement, in whole or in part. Your continued use of or access to the Population Clock Web Service/API following posting of any changes to this Agreement constitutes acceptance of those modified terms.

The ABS may in the future, offer new services and/or features through the Population Clock Web Service/API. Such new features and/or services shall also be subject to the terms and conditions of this Agreement.

Privacy

The ABS monitors user usage of and access to the Population Clock Web Service/API. The ABS collects and logs information including your IP address and the date and time of your access. The log enables the ABS to improve the service and ensure that users act in accordance with the Agreement, including the conditions for 'Access and Web Service/API. We do not collect identifiable personal information about you if you only use or access the Population Clock Web Service/API.

Any personal information that a user provides to the ABS may be used for administrative purposes, including addressing any queries you may have regarding the Population Clock Web Service/API. Such information is subject to the *Privacy Act 1988* and the ABS will not disclose any identifiable information about a person or household unless explicit consent has been sought from the individual or the disclosure is authorised or required by law.

For further information on the ABS' information handling practices, including how to make a complaint regarding a breach of the *Privacy Act 1988*, please see the: ABS Privacy Policy.

Disputes

Any disputes arising out of this Agreement and access to or use of the Web Service/API shall be governed by the law of the Australian Capital Territory.

No Waiver Rights

Failure by the ABS to exercise or enforce any right or provision detailed in this Agreement shall not constitute a waiver of such right or provision.

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The Web Service serves up the real time Australian population figure. It also includes the information about frequency of births, deaths, international migration and overall total Australian population increase that are used in its calculation. Information is also provided for developers to create a Population Clock in their own applications.

The web service is licensed for reuse under Creative Commons and terms and conditions of use are available in the User Guide. ABS must be acknowledged as the source of the population information.

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